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**National
Transportation
Safety Board**

Safety Information

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STATEMENT OF THE

NATIONAL TRANSPORTATION SAFETY BOARD

FOR THE

JUDICIARY COMMITTEE

MONTANA HOUSE

ON

SENATE BILL 300

SEAT BELTS AND CHILD RESTRAINT DEVICES

HELENA, MONTANA

MARCH 19, 2007

Chair Rice and members of the Judiciary Committee, the National Transportation Safety Board offers this statement regarding the National Transportation Safety Board's primary seat belt enforcement and booster seat recommendations and our investigations of accidents involving unbelted and child passengers. Senate Bill 300 is a strong measure that will prevent injuries and save the lives of many in Montana.

The National Transportation Safety Board is an independent Federal agency charged by Congress to investigate transportation accidents, determine their probable cause, and make recommendations to prevent their recurrence. The recommendations that arise from our investigations and safety studies are our most important product. The Safety Board cannot mandate implementation of these recommendations. However, in our almost 40-year history, organizations and government bodies have adopted more than 80 percent of our recommendations.

Primary Seat Belt Enforcement

The Safety Board has recognized for many years that motor vehicle crashes are responsible for more deaths than crashes in all other transportation modes combined. Every year, more than 90 percent of all transportation-related deaths are caused by highway crashes. The single greatest defense against highway fatalities is a vehicle's seat belts. When used properly, seat belts reduce the risk of fatal injury to front seat vehicle occupants by 45 percent.

Unfortunately, seat belt use in the United States remains considerably lower than seat belt use in other industrialized nations. Australia and Canada, for example, have use rates over 90 percent, while seat belt use in the United States is approximately 81 percent. Although 49 States require motor vehicle occupants to use seat belts, 25 States, including Montana, allow only secondary enforcement of their seat belt laws. Secondary enforcement means that police officers cannot issue a citation for a seat belt violation unless the vehicle has been stopped for another reason.

The Safety Board recommended in June 1995 that States enact legislation that provides for primary enforcement of seat belt laws. In 1997, the Safety Board again called for the States to enact primary enforcement and to provide the political will that can enable law enforcement agencies to vigorously enforce this important lifesaving law. The Safety Board maintains a Most Wanted list of safety recommendations because of their potential to save lives. Primary enforcement is one of the issues on that list, the one with the potential to save more lives than any

other on the list. It also has the potential to save more lives than probably any other piece of legislation you will consider this year.

Four elements support the Safety Board's recommendation on primary enforcement seat belt laws. First, seat belts are effective in reducing motor vehicle injuries and fatalities. Second, the 19 percent of motor vehicle occupants who do not use seat belts engage more frequently in high-risk behavior. Third, the economic cost from the failure to use seat belts is substantial. Finally, primary enforcement seat belt laws do increase seat belt use.

Seat Belts Are Effective

Seat belts are the number one defense against motor vehicle injuries and fatalities. Seat belts restrain vehicle occupants from the extreme forces experienced during motor vehicle crashes. Unbelted vehicle occupants frequently injure other occupants, and unbelted drivers are less likely than belted drivers to be able to control their vehicles. Also, seat belts prevent occupant ejections. Only 1 percent of vehicle occupants using seat belts are ejected, while 30 percent of unrestrained vehicle occupants are ejected. In 2005, 75 percent of passenger vehicle occupants who were totally ejected from a vehicle were killed.

The National Highway Traffic Safety Administration (NHTSA) estimates that from 1975 through 2005, seat belts saved more than 211,000 lives nationwide. According to NHTSA, had all passenger vehicle occupants over age 4 used seat belts in 2005, an additional 5,300 lives would have been saved. Unfortunately, some motor vehicle occupants mistakenly believe that they are safer without a seat belt, that their vehicle and/or their air bag provides sufficient occupant protection, or that they will not be in a motor vehicle crash where seat belts would make a difference.

Unrestrained Vehicle Occupants More Frequently Engage in High-Risk Behavior

Approximately 19 percent of motor vehicle occupants nationwide do not use seat belts. These drivers, who choose not to buckle up, tend to exhibit multiple high-risk behaviors and are more frequently involved in crashes. According to the National Automotive Sampling System (crash data composed of representative, randomly selected cases from police reports), belt use among motorists is lowest in the most severe crashes.

Fatal crashes are the most violent motor vehicle crashes and can result from high-risk behaviors such as speeding and impaired driving. Unfortunately, people who engage in these high-risk behaviors also tend not to use their seat belts. While observational surveys have identified an 81 percent seat belt use rate, use in fatal crashes is significantly lower. From 1996 through 2005, almost 840,000 vehicle occupants were involved in fatal crashes. Of those 840,000 occupants, more than 320,000 died. More than 55 percent of the vehicle occupants who died were unrestrained. During that same time, in Montana, more than 2,000 vehicle occupants died, and more than 68 percent were unrestrained.

Impaired drivers and teen drivers are also considered high-risk drivers. Seat belt use for these populations is substantially lower than the national observed belt use rate. In 2005, only 28 percent of fatally injured drivers who were violating their State's per se impaired driving statute (had a blood alcohol concentration at or above 0.08 percent) were using seat belts. As for teen drivers, researchers found that while belt use was low in States that authorize primary enforcement (47 percent), it was even lower in States with only secondary enforcement seat belt laws (30 percent).

Economic Costs from the Failure to Use Seat Belts are Significant

Although opponents to primary enforcement seat belt laws claim that nonuse is a personal choice and affects only the individual, the fact is that motor vehicle injuries and fatalities have a significant societal cost. For example, NHTSA calculated that the lifetime cost to society for each fatality is over \$977,000, over 80 percent of which is attributed to lost workplace and household productivity. In 2005, more than 5,300 lives and billions of dollars might have been saved if everyone had used a seat belt.

NHTSA estimates that each critically injured survivor of a motor vehicle crash costs an average of \$1.1 million. Medical expenses and lost productivity account for 84 percent of the cost of the most serious level of non-fatal injury. In a 1996 study, NHTSA found that the average inpatient cost for unbelted crash victims was 55 percent higher than for belted crash victims. In 2000 alone, seat belts might have prevented more than 142,000 injuries.

While the affected individual covers some of these costs, those not directly involved in crashes pay for nearly three-quarters of all crash costs, primarily through insurance premiums, taxes, and travel delay. In 2000, those not directly involved in crashes paid an estimated \$170 billion for crashes that occurred that

year; \$21 billion, or 9 percent of total economic costs, were borne by public sources (federal and State government). Motor vehicle injuries and deaths experienced by unbelted vehicle occupants cost the Nation's taxpayers an estimated \$26 billion just for medical care, lost productivity, and other injury related costs.

The emotional and financial costs to Montana are just as staggering. In 2005, almost 200 vehicle occupants died; at least 71 percent were not using the available seat belts. NHTSA estimates that if Montana raised the belt use rate from 80 percent (observed use rate in 2005) to 100 percent, each year, Montana would prevent an additional 45 fatalities and 571 injuries, saving the State's taxpayers more than \$82 million. In 2000, the most recent year for which data is available, the total economic cost of motor vehicle crashes that occurred in Montana was about \$620 million.

Primary Enforcement Seat Belt Laws Do Increase Seat Belt Use

Primary enforcement seat belt laws remain the best way to raise and maintain high seat belt use rates. With primary enforcement, police officers are authorized to execute a traffic stop and cite unbelted vehicle occupants without needing another reason for making the stop. According to the National Occupant Protection Usage Survey (June 2006), seat belt use in primary enforcement law States was 85 percent, while the belt use rate in secondary enforcement law States was only 74 percent. States that recently enacted primary enforcement seat belt laws have experienced increased seat belt use rates ranging from almost 5 to almost 18 percentage points. The increased use is based on the perceived risk of being stopped.

Conclusion

American citizens support primary enforcement. NHTSA conducted a survey in 2003 to determine the public's opinion on primary enforcement seat belt laws.¹ Overall, 64 percent of the population surveyed supported primary enforcement. Among people from States with secondary enforcement seat belt laws, more than half (56 percent) approved of primary enforcement. Minority populations are strong proponents of primary enforcement. For example, 74 percent of Hispanics surveyed and 67 percent of African Americans surveyed

¹ U.S. Department of Transportation, National Highway Traffic Safety Administration, *2003 Motor Vehicle Occupant Safety Survey Volume 2 Safety Belt Report*, DOT HS 809 789 (Washington, DC: NHTSA, 2004).

endorsed primary enforcement, as opposed to 62 percent of whites. Traffic crashes affect people of all ethnic backgrounds.

Key provisions of a comprehensive primary enforcement seat belt law should include coverage of all vehicle occupants in all seating positions, coverage of all vehicles, and sufficient penalties to promote compliance with the law. By allowing police officers to stop vehicles directly for seat belt violations, Montana shows that it takes seat belt use very seriously.

Child Restraint Systems

The Safety Board has recognized for many years that motor vehicle crashes are responsible for more deaths than crashes in all other transportation modes combined. We know that the single greatest defense against highway fatalities is a vehicle's seat belts. Traffic crashes are the leading cause of death to children.

The number of injuries and deaths for children in the 6-to-8 age range remains high because these children are often unrestrained or restrained in systems too advanced for their physical development. According to data from the Fatality Analysis Reporting System (FARS), from 1996 through 2005, more than 1,800 children age 6 to age 8 were killed while riding in motor vehicles. More than 90 percent of child passengers in this age group who died had been unrestrained or placed in an adult seat belt.

Restraining a child makes it three times less likely that the child will be injured in a crash. Placing a child in the rear seat makes it an additional two times less likely that the child will be injured. But the best protection for children in the 4-to-8 age range is to place the child in the rear seat with a belt-positioning booster seat.

The Safety Board believes that belt-positioning booster seats are necessary to ensure proper seat belt fit for children ages 4 to 8 and that a successful child passenger safety program requires legislation.

Seat Belts Do Not Provide Sufficient Protection for Children Ages 4 to 8

Because seat belts are designed to provide optimal protection for adults, they do not provide sufficient protection for children. To operate properly, seat belts depend on a person's bone structure, spreading the forces of a crash over the hips, shoulders, and chest, keeping the occupant in place so that the head, face, and chest

are less likely to strike the inside of the vehicle. Correct seat belt fit is not usually achieved until a child is 9 years old, the age at which the child's thigh is long enough for the child to sit against the seat back, the child's hips are sufficiently developed to anchor the belt, and the child's height is sufficient for the shoulder belt to fit properly over the shoulder and sternum.

In 1996, the Safety Board examined the performance and use of occupant protection systems for children. The Safety Board reviewed 120 crashes in which at least one vehicle contained a child passenger younger than age 11 and in which at least one occupant was transported to the hospital. This sample included 46 children who were restrained in child restraint systems, 83 children restrained in seat belts, and 65 children who were unrestrained, for a total of 194 children. The Safety Board found that none of the fatally injured children was a child who had been placed in the appropriate restraint and who had used it properly. Children inappropriately restrained by seat belts had higher overall injury severity, including five fatal injuries, than children properly restrained. Among the unrestrained children, almost 30 percent suffered moderate or worse injuries, including five fatalities. Children in high severity accidents tended to sustain injury, which makes proper restraint even more important in such accidents.

Using a seat belt without a booster seat can result in serious injury to children. Without a booster seat, the lap belt can ride over a child's stomach and the shoulder belt can cut across a child's neck. Because such shoulder belt positioning is uncomfortable, children frequently remove the shoulder portion of the adult seat belt, increasing their risk of head injury. According to a study by Partners for Child Passenger Safety,² children inappropriately restrained in seat belts suffered injuries to all body regions, while there were no reported abdominal, neck/spine/back, or lower extremity injuries among children who were restrained in booster seats. Children restrained only in seat belts are 3.5 times more likely to suffer abdominal injury than children appropriately restrained with booster seats. When children use booster seats, the odds of injury are 59 percent lower than when children use only seat belts.

The Safety Board found in the 1996 study that a lap/shoulder belt would not properly fit a child less than 54 inches tall; children under this height would be safer in a booster seat. The general opinion among law enforcement has been that

² The Children's Hospital of Philadelphia and the University of Pennsylvania, with support from the State Farm Insurance Companies, has undertaken a 5-year research project to study child occupant protection. The central goal of this project is to save children's lives by increasing the fund of knowledge about children in motor vehicle crashes.

age is a better enforcement criterion than height. At the time of the Board's 1996 study, the American Academy of Pediatrics age, height and weight guidelines indicated that the average 8-year-old child was 54 inches tall.³ Therefore, the Board recommended enacting legislation that ensures children up to 8 years of age are required by the State's mandatory child restraint use law to use child restraint systems and booster seats.

A Successful Child Passenger Safety Program Requires Legislation

Although education is an important factor in increasing booster seat use, it is not sufficient by itself for attaining higher booster seat use levels. A 2003 survey conducted by NHTSA revealed that 85 percent of parents and caregivers had heard of booster seats, but only 60 percent of those who knew about booster seats had used them at some point. The survey also revealed that just 21 percent of children ages 4 to 8 had traveled on at least one occasion in a booster seat. Among the State Farm insured population participating in the ongoing Partners for Child Passenger Safety study, 62 percent of children between the ages of 4 and 8 were placed only in adult seat belts.⁴

Much of the opposition to mandating booster seats concerns the inconvenience and cost to adults to comply with booster seat laws. A backless belt-positioning booster seat, however, costs as little as \$15. As a nation, what value do we want to place on a child's life? In her testimony before the U.S. Senate, Autumn Skeen, a mother who lost her son because he was not in a booster seat, stated that she had relied on Washington State statutes in deciding to use a seat belt for her 4-year-old son. In June 1996, Anton Skeen died when he was ejected out of his seat belt and the vehicle, even though his seat belt remained buckled. Ms. Skeen's reliance on State law to determine the necessary safety requirements for her child is common among concerned parents. In focus groups conducted by Partners for Child Passenger Safety, many parents who used seat belts to restrain their children justified their actions with their States' child passenger safety laws.

Montana requires child safety seats and booster seats for children up to age 6 and 60 pounds. Children remain at risk, however, because Montana's law does not fully implement the Safety Board's recommendation.

³ The source of the American Academy of Pediatrics' guidelines has always been the Centers for Disease Control and Prevention.

⁴ Partners for Child Passenger Safety, CPS Issue Report, July 2004.

Senate Bill 300 fully satisfies the Safety Board's recommendation on the use of child restraints and complies with best practices by requiring children to use child restraints until they are 8 years old.

Parents want to protect their children, but many parents do not understand that seat belts do not provide sufficient protection for children in this age range. Belt-positioning booster seats ensure proper seat belt fit, which means that children get the optimum level of protection from the seat belt without the risk of head or abdominal injuries.

Motor vehicle crashes are responsible for more deaths than crashes in all other transportation modes combined. Motor vehicle crashes are the leading cause of death to children. The single greatest defense against highway fatalities is proper restraint use.

The Safety Board believes that Senate Bill 300 will save lives and reduce injuries. Enacting this bill is likely the most important life-saving measure you can take this session. It costs nothing, but will save much. Madam Chair, the Safety Board asks that you enact this legislation to improve your vehicle occupant protection law.

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